

Parents & Supporters Guide



Learning to write code is like training to play a sport or studying a new subject — it involves practice, patience, and problem solving. This section gives you tools to help others gain programming skills **even without having programming experience yourself.**



WATCH THE VIDEO:

<https://techprep.fb.com/parents-and-supporters/>



Get started

STEP

1.1 Start the conversation about programming

/ GET STARTED

Have a conversation about programming with your student to get them started.

- Talk to them about their interest in computer programming. Understand why they may or may not be interested and talk to them about the facts in the **Did You Know?** section.
- Discuss where you have heard words from the **Words You May Hear** section. Where else might you hear or find these words?
- Let them know that the games, apps, and programs they enjoy on phones and computers were made with code, and they can use code to create their own games, apps and programs.
- Introduce them to resources based on their interests. Learn more in the **Get matched with tools to learn programming** section.

STEP

1.2 Did you know?

/ GET STARTED

1. Programmers use wide variety of skills in their work.

Programming careers attract people with all types of skills and interests. They can involve things like gaming, art, and math.

2. Learning computer programming is similar to learning a new language.

Coding is writing a set of instructions in a language that the computer understands. Learning computer programming is the process of understanding that language so you can communicate with a computer.

3. Programming can be done by yourself or in a group.

You can program on your own or as part of a group. You'll often see engineers discussing ideas with each other to find the best way to solve a program. You may also see them coding on their own – it just depends on what the job or the project requires.

4. Not all computer programming careers are engineering careers.

There are a lot of careers that involve computer programming where you don't need an engineering degree. One example is programming a website. You can create a website without being an engineer.

5. Regardless of your background and experiences, you can help others learn computer programming.

If you don't have any experience in computer programming but want to help your child or another learner get involved in computer programming, you can. There are many resources available on our Start Programming page that you can introduce them to and you can also provide them with encouragement and moral support when necessary.

6. You can start coding now, even if you don't have programming classes at school.

There are so many amazing learning tools out there to learn computer programming without having to be in a classroom. Check out the Start Programming section of our website to see what works best for you or your child/student.

7. It's never too early or too late in your life to start coding.

One great thing about coding is you can get started at almost any age. There are even options for learning programming without a computer if you are concerned about too much screen time for younger learners or don't have easy access to a computer.

1.3 Words you may hear

/ GET STARTED

While learning computer programming, you or your student may come across these terms.

What is **code**?

Code is a written set of instructions that tells the computer what to do. When you put the code (or instructions) into the computer, it can read those instructions and will do what you asked.

SEE EXAMPLE:

```
<p>This starts a new paragraph.</p>  
<b>This makes the words BOLD.</b>  
<a href="https://facebook.com">  
This creates a link to another website</a>
```

ALL IT MEANS IS THIS:

The code on the left is telling the computer to display a paragraph of text. The second line of code is styling text to be bold. The third item is creating a link to another website.

What is a **computer program**?

A computer program is a group of instructions or a bunch of lines of code that execute a specific task. This could be as simple as calculating a few numbers or could be more complex, like building Facebook. Websites, games, and apps are all examples of computer programs.

What is the difference between **programming, coding, and computer science**?

Computer science is the study of how to write the code in the best way and to understand how computers work.

People often use coding and programming to mean the same thing - as each are the act of writing code. Programming also includes thinking through how the code is organized as it is being written.

What is a **computer programming language**, and are there more than one computer language?

Just like how there are many languages that people speak in the world, there are many computer programming languages. The difference between languages people speak versus computer programming languages is that different programming languages do different things.

For example, to build a website you might use the languages Python, HTML, CSS or JavaScript. For a mobile app, you might use Java or Objective C. For video games, you might use C++. The language that is selected depends on what you are trying to create and what you are trying to get the computer to do.

How does **coding** relate to the **internet**?

The internet is a gigantic network of computers all interacting with each other. Code runs each of the individual computers and also makes it so they can communicate with each other.

People talk about **apps** on their phones.

What is a **mobile app**?

An app (or mobile application) is a computer program on your phone. Many people download apps, like games, maps or Facebook onto their phones using the internet.

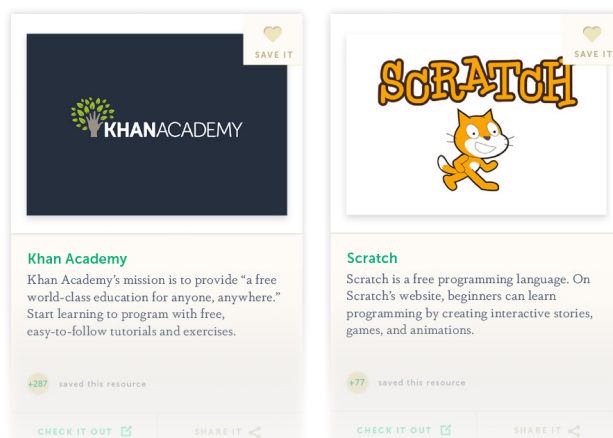
STEP

1.4 Find learning tools together

/ GET STARTED

In our **Start Programming** section, you will find resources, including online classes, events in your area, games, and many more tools to learn computer programming.

Many of our resources are free or low-cost and are organized by age, skill level and types of resources so you can find the best fit for your students.



Click the 'Start Programming' button below to find great resources for learning computer programming.

START PROGRAMMING

<https://techprep.fb.com/get-started/>

Get them learning

STEP

2.1 Learn in a group

/ GET THEM
LEARNING

For some students, a great method to learn computer programming is in groups, where they can support each other throughout the learning process.



Team up

Create a group of friends, classmates or others in your community. Get together weekly or monthly to work through TechPrep suggested resources.



Join

Find online communities, summer camps and other group activities in the **Start Programming** section of TechPrep's website.

<https://techprep.fb.com/get-started/>



Visit

Visit local libraries or schools that may have computers that groups can use to learn coding.

2.2 Learn at home

/ GET THEM
LEARNING

- Explore the Start Programming section to find online classes, after school activities, summer camps, and community events.
- Libraries will often have computers available for use and sometimes offer computer classes. You can also find books and magazines on programming at the library.
- Visit local science or technology centers in your area. Find centers in your area here:
<http://www.astc.org/about-astc/about-science-centers/find-a-science-center/>
- Subscribe to different technology channels on YouTube, then watch these videos with your children and discuss the topics together. Here are a few to start:



YOUTUBE / CODE.ORG

<https://www.youtube.com/user/CodeOrg>



YOUTUBE / LEARN CODE ACADEMY

<https://www.youtube.com/user/learncodeacademy/videos>



YOUTUBE / THE NEW BOSTON

<https://www.youtube.com/user/thenewboston>



YOUTUBE / GIRLS WHO CODE

<https://youtu.be/7WRQff1Kr-w?list=PLjDOmyrevNUiwE-SxOrgdVVVaae3TK9D6>

- Consider dedicating a small, consistent time period each day, week or month for coding practice. Shorter sessions each day or every other day, are far more effective than longer sessions every once in a while. This is an excellent way to build a consistent routine which will promote improvement.

2.3 Talk to your school

/ GET THEM
LEARNING

Ask your student's teacher:

- Are computer or programming classes available during school?
After school?
- How often does my child use computers or other technology in class?

Ask your student's principal:

- Do teachers get training on how to use technology in their classrooms?
- Can my child use a computer after school?
- Does the school sponsor an **Hour of Code**?
<https://hourofcode.com/us>

Ask your student's counselor:

- What kinds of classes or activities could help my child become a computer science major in college?
- Are there any opportunities for my child to talk to or meet a programmer?

Help them succeed

3.1 Help them succeed

STEP
/ HELP THEM
SUCCEED

The resources found on this website are designed to make learning how to write code interesting, enjoyable and rewarding. Your student may find the resources engaging, but they may also have times when the going gets tough and problems will need to be worked through. Learning a new skill involves hard work and overcoming obstacles. Here are some things to keep in mind:

- Joining an in-person learning program or building a community of students on your own to practice on a weekly basis will give them an opportunity to work directly with educators or to work together to problem solve as they get stuck.
- Some of the learning tools on the TechPrep website provide more mentorship and support than others.
- Here are a few online resources that provide chat, forums or office hours while learning:

codecademy

<https://discuss.codecademy.com/c/help>

KHANACADEMY

<https://khanacademyfeedback.uservoice.com/>

CODE COMBAT

<https://discourse.codecombat.com/>

- Work with your student as they problem solve:
 - Ask question about the struggle they are having. Give your child or student an opportunity to vent.
 - Reassure your child or student that getting stuck while coding is a natural occurrence. When learning to code, everyone comes up against problems that seem to be hard or even impossible to solve.
 - Have them take a break and revisit the problem later, many times solutions will magically appear when given a little time.

STEP

3.2 Becoming a mentor

/ HELP THEM
SUCCEED

If you have started to learn about programming and discovered how fun and rewarding it can be, you might be ready to take the next step and become a mentor. In this role, you can experience computer programming and help family, friends and/or community members discover the joys of it as well.

- You can check out the resources in the **Start Programming** section of our website to find resources to get you started learning.

<https://techprep.fb.com/get-started/>

- If you want a deeper understanding of teaching computer programming, we also recommend visiting the “**Teach**” section on the **code.org** website to find free teaching guides, games and activities to introduce to your students, and free, in-person workshops for educators. They also have a section of “**Unplugged**” lessons where you can introduce computer programming to your students without using computers. Programming and education experience is not necessary!

<https://code.org/educate>

<https://www.ncwit.org/resources/computer-science-box-unplug-your-curriculum>

TechPrep matches you with tools to learn programming.

Get Coding Now

START PROGRAMMING

<https://techprep.fb.com/get-started/>

